Conceptual Paper on Framework for a Comprehensive Competency Model

ISBN: 978-1-943295-08-1

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There has been an ever pervasive debate as to whether the Competency Model truly represents the dynamic realities in a particular organization. Critics of the Model consistently portray that well intentioned effort generally transform into an incoherent and often unusable model. Besides the effect of VUCA (Volatile, Unclear, Complex and Ambiguous) environment on the changing competency requirement of an organization and the consequent causal attributes also contribute immensely to decrease the usability of the model. These attributes may range from the varying assumptions made during initial stage, critical success factors not being considered and overlooking of several intertwining relationships. The conceptual paper examines the traditional competency models and explores the several independent variables that are critical for formulation of a Comprehensive Competency Model. Further, the paper also examines the predictive power of traditional models and proposes the application of these models in forecasting the competencies of the employees. With its predictive capabilities this Comprehensive Competency Model, may soon be a Game changer in several strategic decision-making processes.

Keywords: Comprehensive Competency Model (CMM), Time Series Analysis (TSA), Structural Equation Modelling SEM), Exponential Generalized Autoregressive Conditional Heteroskedasticity (EGARCH), Life Data Analysis (LDA), Weibull Distribution.

1. Introduction

The concept of competency lies at the heart of human resource management, providing a basis for integrating key HR activities such as selection and assessment, potential management, training, development and reward management (Lucia and Lepsinger, 1999). Research approaches in this direction have consistently emphasized on identifying coherent constructs of characteristics that are relevant for Competency model for an organisation. However, the ever pervasive debate as to whether the *Competency Model* truly represents the dynamic realities in a particular organization continues to persist. Critics of the Model consistently portray that well intentioned effort generally transform into an incoherent and often unusable model.

2. Review of Literature

The *Boyatiz - McBer approach* has laid the foundation for research in the field of Competency modelling. The procedures/ technique under this framework along with excerpts of diagnostic interview conducted have been discussed in the seminal paper "Competencies" by Bridget Hogg, David Beard and Geoff Lee published in the journal "Individual and Organisation Assessment Centre, Academy of HRD", 1970. The paper demonstrates what Green (1986) describes when he says "Skills are important bricks, but pile of bricks is not a building". *Competence building* is thus an outcome of strategic architecture which must be enforced by top management in order to exploit its full capacity. CK Prahalad and Gary Hamel illustrate that core competencies lead to the development of core products in the research paper titled "The Core Competence of the Corporation" published in HBR May - Jun 1990. Core competencies are developed through the process of continuous improvements over the period of time rather than a single large change. The authors highlight the importance to identify core competencies because it is difficult to retain those competencies in a price war and cost-cutting environment. N Khandwalla (2004) discusses major gaps in understanding the mutual relationship between the managerial roles and competencies. In this paper, the roles of senior managers have been examined with respect to strategy, operations, and leadership. Mahdi Bohlouli, et. al.. (2016) highlights that efficient human resource management needs accurate assessment and representation of available competences as well as effective mapping of required competences for specific jobs and positions. The paper describes the combined use of software technologies and mathematical and statistical methods for assessing and analyzing competences in human resource information systems. Additionally, several technical papers were examined related to the study conducted on competency mapping at various firms and SBUs. Krishnaveni. J (2013) assesses the competency of the employees of Meenakshi Mission Hospital and Research Centre, Madurai, India. It evaluates various aspects of employees' competency such as ability to mutual relationship, communication, adaptability, leadership and overall task proficiency. This study identifies incompetence among the employees and remedial measures to improve performance. The research adopts a descriptive research design to identify the competencies possessed by the employees. Data was obtained from 84 employees through structured questionnaire. Convenient sampling method was adopted and analysed using mean scores and Analysis of Variance. The emerging importance of Emotional Intelligence has been highlighted by Prof Bikash Kalita and Dr Pradip K Jain (2013). The study reiterates that Emotional intelligence like technical skill can be developed through a systematic and consistent approach to building competence in personal and social awareness, self management and social skills. However, unlike technical skills the pathway in the brain associated with social and emotional competencies are different than those

engaged by more cognitive learning (Cherniss, Goleman, Emmerling, Cowan &Adler, 1998). The paper by Zulfiqar Murtaza (2015) identifies the gap between the competencies present and the competencies that are required for the employees in the tourism department. The paper focuses on the fact that there is a gap in the competencies present among the employees of tourism sector as against the competencies demanded by the employees of the sector. Based on this research the author proposes to develop a competency map which can improve the tourism sector in the state. Prof Asha Sara Mammem and Dr Harold Patrick (2015) have brought out the role of demographic attributes of employees that result in significant difference in attitude and belief which leads to difference in competence of employees. According to Pfeffer (1983), employee demographics is the study of the composition of social entity based on the attribute of the individual member that it is made up. Demographic variable include age, gender, marital status, tenure of work experience, name of department, ethnicity etc. He further brings out that a healthy work environment is where there is a level of employee trust towards management, where employees have pride in what they are doing and enjoying with their colleagues (Levering and Moskawitz, 2004). Kahn (1990) argues that the employees engage themselves and invest more time and organization work, if they have a high perception that the work environment satisfies their psychological needs, resulting in greater performance, productivity and competitiveness. The training aspects of Competency modelling has been examined by VK Khanna and Ruby Gupta (2014). The author assesses and compares the role of competency based training on the status of 5 "S" and TQM at Mayur Uniquoters Ltd. and KH Metals Ltd. The index methodology has been used to assess and compare the level of performance in competence, 5 "S" and TQM.

Theoretical insights of strategic management have been explored in the Competency Manual titled "The SHRM Body of Competency and Knowledge". In 2011, SHRM began years of extensive research involving thousands of HR professionals to develop the SHRM Competency Model, which identifies eight key Behavioral Competencies and one Technical Competency that are the foundation of successful HR practice. The Competency Manual at Linde group, UK was also examined. The "Behavioural Competency Model" uses a global set of behavioural standards being used for Linde Banded employees across the whole of the Linde organisation. The new competencies link directly to High Potential Organisation (HPO) vision and strategy, focusing on the behaviours that support a HPO. In the Indian context, the manual "Indian Civil Services: Competency based Human Resource Management", a Competency Manual for the Indian Civil Service has been developed along with an implementation tool-kit outlining the application of competencies with HRM practices. The document outlines the detailed process that is required to identify competency requirements for various positions in an organisation. Sophie Op De Beeck & Annie Hondeghem (2010) examine competency management in the public sector. Since competency management is considered as a means to develop an integrated HR policy rather than an objective in itself. In this paper the authors specifically focus on the three dimensions of integrated competency management: horizontal integration (aligning HR activities), vertical integration (aligning HR and the organisational strategy) and implementation in the organisation. By facilitating these three dimensions of integration, the authors argue that competency management may serve as leverage for a more professional human resource management. Based on a recent OECD (2009) study, the authors conducted case studies in the national governments of four countries, with a mature competency management system: Australia, Belgium, Korea and the United Kingdom. Research questions, different sources viz. academic literature, official government documents, and local experts (academics and practitioners) were consulted and it was found that each country experiences difficulties with the implementation of centrally developed HR tools and guidelines in their agencies or departments. Further, the results of the case studies showed that all selected countries had problems with the third dimension of integration.

Customisation has become the order of the day, wherein each employee needs must be assessed separately to ensure that talent is acquired, nurtured and retained (Stone, 2002). The paper by Dr Shubha Murlidhar (2016) highlights nine independent variables that impacts Job Satisfaction and Talent Management. A multivariate statistical analysis technique viz. Structural Equation Modelling (SEM) was applied to analyze the structural relationships of HR practices on these two dependent variables. Prof Shalini Talwar (2016) examines various autoregressive volatility models to develop a volatility estimation equation for Jakarta Stock Exchange Composite Index (JCI). The causality relationship of JCI with stock exchanges of Mexico, Nigeria and Turkey (MINT countries) is examined using Vector Auto regression. Thereafter the forecasting models are studied that range from the simplest GARCH model to comparatively advanced GARCH models, namely Exponential GARCH (EGARCH) and Threshold GARCH (TGARCH) models. The author has attempted to characterise a good volatility model by assessing it on parameters like the Log Likelihood Criteria (LL), Akaike Information Criteria (Akaike, 1974), the Baysian Information Criteria (BIC) (Schwarz, 1978) and Hannan Quinn Criteria (Hanan and Quinn, 1979). Finally, the models have also been evaluated to ascertain the robustness of forecasting by applying measures like Root Mean Squared Error, Mean Absolute Error, Mean Absolute Percentage Error and Theil Inequality Coefficient. The emerging potential of analytical prediction has been highlighted by Prof. Ullhas Pagey and Kuldeep Chhetri (2016). The authors explore the feasibility of using the mathematical model of Reliability Engineering namely the Life Data Analysis (LDA)/ Weibull distribution with Human Capital Management in predicting Job satisfaction level.

3. Objective

This conceptual paper aims to examine the traditional competency models and explore the several independent variables that are critical for formulation of a Comprehensive Competency Model (CCM). Further, the paper also proposes the application SEM, EGARCH, Life Data Analysis to forecast the future competencies of employees.

4. Scope and Significance of Study

Competency modelling has emerged from a narrow application based concept to be a leading catalyst for diagnosing, framing and improving the processes in the human resource management. Today, each organization faces a fundamental challenge in identifying and developing a specific competency model based on the inherent vision, mission, expectations and culture and of the company. Some of these organisations have taken a "one size fits all" approach to competency modelling. Consequently, the chosen models are unable to provide reasonable solution to the end process. Besides, in cases where companies are expanding fast and competing to be the best, the traditional competency models fail miserably (Bernal and Schuller, 2016). The extent of failure of these models have been so high that it requires a paradigm shift in the way we define and formulate the constructs and processes of the traditional Competency model.

The proposed Comprehensive Competency Model (CCM) envisages a futuristic model that is based on the customising the competency model of each employee and its predictive mapping. This model shall thus provide a holistic approach in providing a quantitative basis for decisions that are taken during compensation management, promotion and rewards, training and development, succession planning and identifying fast track employees. It may also be used for monitoring low rated performers and consequent appraisal/ counselling.

5. Key Elements of the Comprehensive Competency Model

The traditional model classifies competencies to be either technical or behavioural (SHRM, OECD, ASTD Model, etc). However, as certain key variables are not considered/ inaptly sidelined the traditional models tends to become inefficient and impracticable. The review of literature has revealed that though several of the below mentioned variables have been independently studied an integrated approach with respect to the competency model has been lacking.

5.1 Potential of Employee

The research by Douglas A. Ready, Jay A. Conger, Linda A. Hill (2010) delves into the primary question of whether or not companies have high-potential talent lists. The findings highlight that not only is the *high potential list* prevalent in most of the major companies but also that the high potentials get promoted faster than other employees. Consequently, the relevance of Potential of the Employee needs to be formally accepted and therefore must be incorporated in the Competency model.

5.2 Critical Incident Report

The critical incident method is a performance appraisal method that requires keeping written records of highly favourable and unfavourable employee work actions. This is an effective exploratory tool for increasing knowledge about the employee performance. Intuitively, this therefore stands to be an important consideration for the proposed model.

5.3 Personal Data of Employee

Several researchers have highlighted the growing importance of personal data being used for data-driven decision-making and predictive analytics (Chantrelle Nielson, 2015). For example with the focus on healthcare and wellness programs, many employers are now using employee's health records to determine and predict gaps in employee performance. Another unexplored area of research may be related to the life data analysis of the personal data with the employee's overall performance in an organisation. Consequently, the Personal Data of Employee may certainly play a critical role for the study.

5.4 Training and Development

Training and Development is almost universally recognized as a strategic tool for an organization's continuing growth, productivity and ability to retain valuable employees (Ali Jaffer, Mona Murshed, 2017). Several studies have emphasised the significance of T&D towards the overall performance and productivity of the employees (Tahir, Yousafzai, Jan and has him, the Training and Development, 2014). Thus T&D may be considered as a crucial variable for the study.

5.5 Emotional Intelligence (EI)

Research by Carnegie Institute of Technology has highlighted that 85% of the financial success was due to skills in "human engineering", personality, and ability to communicate, negotiate, and lead. They found that only 15% was due to technical ability. In other words people skills or skills highly related to emotional intelligence were the dominant skills required to be successful (Prof. Bikes Kaila and Dr. Prada K Jain, 2013). Consequently, the role of EI for the study needs to be certainly considered.

5.6 Bench-marked Policy of Company

Senior executives understand that their organization's measurement system strongly affects the behaviour of managers and employees. Executives also understand that traditional evaluation can give misleading signals and therefore each company needs to follow a Benchmarked policy (Robert Kaplan and David Norton, 1992). Evaluating employees on this Bench marked policy will provide a realistic assessment of the present potential of the employee to the organisation.

6. Prediction Power of the Comprehensive Competency Model

In the Comprehensive Competency Model the future metric (Future Potential of Employee) may be predicted using one of the four commonly used Time Series Forecasting methods viz. linear model, quadratic model, exponential model and auto regressive model. Research papers on SEM and Exponential GARCH have indicated several advantages and these methods are therefore recommended for four prediction models may vary from employee to employee and hence the model that closely matches the actual output may be selected for future predictions.

7. Conclusion

As the world moves towards the aspirations of the millennial, the transition in the form of multiple competency model and its predictive mapping will become pivotal. The proposed model shall thus provide a holistic approach in providing a quantitative basis for decisions that are taken during compensation management, promotion and rewards, training and development, succession planning and identifying fast track employees. Further, with its predictive capabilities the CCM, may soon become a reality for taking strategic decisions.

8. Scope for Further Study

The proposed CCM has laid a broad framework for of competency mapping/ measurement, however there exists a primary requirement to undertake rigorous survey to support/ prove the efficacy of this model. Consequently, this shall require rigorous survey to be conducted across different industries/ organisations to identify key dependent variables that are crucial for the model. Another area of further study may entail predicting the potential of employee from mathematical models other than the proposed models viz. TSA, SEM, EGARCH and LDA models. To find a suitable model that accurately predicts the potential of the employee remains a formidable challenge for the behavioural scientist/ analyst and researchers can contribute immensely in this unchartered field.

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